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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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20350	7590	08/04/2006	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			AHLUWALIA, NAVNEET K	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/769,351	Applicant(s) HARA ET AL.	
	Examiner Navneet K. Ahluwalia	Art Unit 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/30/2004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The application has been examined. Claims 1 – 33 are pending in this office action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Regarding claims 4 and 15, the element ring is claimed but is vague and indefinite because it is unclear from the claim and the specification as what is the ring and what is its purpose and is cited only once in the specification and is not explained.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 – 3, 5 – 14 and 16 – 33 rejected under 35 U.S.C. 102(b) as being anticipated by Cotner et al. ('Cotner' herein after) (US 6,247,055 B1).

With respect to claim 1.

Cotner discloses a method for processing databases in a system which includes a plurality of storage areas each storing a database and a plurality of computers each having a database management program running thereon which manages one of said plurality of storage areas, each said storage area being associated with only said computer managing said storage area, said method comprising:

- when a failure has occurred in one of said plurality of computers as a failed computer, obtaining preset substitution information indicating that the storage area managed by the database management program running on said failed computer is to be managed by the database management program running on another one of said plurality of computers as a substitute computer (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner); and
- based on said substitution information, changing association of said storage area with said failed computer to said substitute computer, said storage area to be managed by said database management program running on said substitute computer (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 2,

Cotner discloses the method as recited in claim 1, wherein said substitution information includes association information associating an identifier of said database management program running on said failed computer with an identifier of said database management program running on said substitute computer, said substitution

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information indicating that said storage area managed by said database management program running on said failed computer is to be managed by said database management program running on said substitute computer when a failure occurs (the resync port number is pre assigned and this is similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 3,

Cotner discloses the method as recited in claim 2, wherein said substitution information comprises a mutual substitution configuration in which two of the computers are associated with one another whereby one of the two computers is a substitute computer for the other of the two computers as a failed computer mutually (column 5 lines 22 – 34, Cotner).

With respect to claim 5,

Cotner discloses the method as recited in claim 2, wherein said substitution information comprises an n-to-1 substitution configuration whereby one of the computers is a substitute computer for n of the computers as failed computers (as shown in Figure 5 and column 5 lines 30 – 37 explain that the resync port number is matched to a list and it would be inherently possible that more than one system could have the same resync number, Cotner).

With respect to claim 6,

Cotner discloses the method as recited in claim 1, wherein said substitution information includes a plurality of pieces of association information each associating an identifier of said database management program running on said failed computer, an identifier of the database management program running on one of a plurality of substitute computers, and priority information indicating a priority with one another, said substitution information indicating that said storage area managed by said database management program running on said failed computer is to be managed by said database management program running on one of said substitute computers selected according to said priority information (column 5 lines 7 – 37, Cotner).

With respect to claim 7,

Cotner discloses the method as recited in claim 1, further comprising taking over processing from said failed computer by said substitute computer based on said substitution information (column 3 lines 3 – 9, Cotner).

With respect to claim 8,

Cotner discloses a method for processing a database in a database management system which divides said database into a plurality of sub-databases and associates each sub-database with one of a plurality of database servers to process data, said method comprising (column 1 lines 41 – 61, Cotner):

- if one of said plurality of database servers is found to have failed as a failed database server when a request for processing is made to said failed

- database server, obtaining an identifier of another one of said plurality of database servers as a substitute database server which is to take over said processing from said failed database server based on information on substitution relations between said plurality of database servers, and switching from said failed database server to said substitute database server for receiving said request for said processing (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner);
- wherein said information on substitution relations between said plurality of database servers indicating which one of said plurality of database servers is used as a substitute database server if one of the other database servers fails is stored beforehand (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 9,

Cotner discloses the method as recited in claim 8, further comprising: receiving said request to which a substitution instruction based on said information on substitution relations has been added upon a failure of said failed database (column 3 lines 1 – 9, Cotner); and recognizing said substitution instruction and performing said processing in place of said failed database server based on said recognized substitution instruction (the resync port number is pre assigned and this is similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 10,

Cotner discloses the method as recited in claim 9, further comprising, before performing said processing in place of said failed database server, changing an execution environment of said substitute database server to an execution environment of said failed database server, said substitute database server taking over said processing (column 8 lines 36 – 51, Cotner).

With respect to claim 11,

Cotner discloses the method as recited in claim 9, wherein performing said processing in place of said failed database server comprises using a database buffer of the substitute computer for accessing a database storage area, a table, or an index associated with said failed database server (where the list could be an index in column 8 lines 36 – 42 and in Figure 5 element 215 is a table that has the resync numbers, Cotner).

With respect to claim 12,

Cotner discloses a system for processing databases, said system comprising:

- a plurality of storage areas each storing a database (Figure 1, Cotner); and
- a plurality of computers each having a database management program running thereon which manages one of said plurality of storage areas, each

- said storage area being associated with only said computer managing said storage area (Figure 2 and column 1 lines 41 – 62, Cotner);
- wherein each computer includes a substitution control section configured, when a failure has occurred in one of said plurality of computers as a failed computer, to obtain preset substitution information indicating that the storage area managed by the database management program running on said failed computer is to be managed by the database management program running on another one of said plurality of computers as a substitute computer (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner); and, based on said substitution information, to change association of said storage area with said failed computer to said substitute computer, said storage area to be managed by said database management program running on said substitute computer (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 13,

Cotner discloses the system as recited in claim 12, wherein said substitution information includes association information associating an identifier of said database management program running on said failed computer with an identifier of said database management program running on said substitute computer, said substitution information indicating that said storage area managed by said database management program running on said failed computer is to be managed by said database

management program running on said substitute computer when a failure occurs (the resync port number is pre assigned and this is similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 14,

Cotner discloses the system as recited in claim 13, wherein said substitution information comprises a mutual substitution configuration in which two of the computers are associated with one another whereby one of the two computers is a substitute computer for the other of the two computers as a failed computer mutually (column 5 lines 22 – 34, Cotner).

With respect to claim 16,

Cotner discloses the system as recited in claim 13, wherein said substitution information comprises an n-to-1 substitution configuration whereby one of the computers is a substitute computer for n of the computers as failed computers (as shown in Figure 5 and column 5 lines 30 – 37 explain that the resync port number is matched to a list and it would be inherently possible that more than one system could have the same resync number, Cotner).

With respect to claim 17,

Cotner discloses the system as recited in claim 12, wherein said substitution information includes a plurality of pieces of association information each associating an

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identifier of said database management program running on said failed computer, an identifier of the database management program running on one of a plurality of substitute computers, and priority information indicating a priority with one another, said substitution information indicating that said storage area managed by said database management program running on said failed computer is to be managed by said database management program running on one of said substitute computers selected according to said priority information (column 5 lines 7 – 37, Cotner).

With respect to claim 18,

Cotner discloses the system as recited in claim 12, wherein the substitution control section of said substitute computer is configured to take over processing from said failed computer based on said substitution information (column 3 lines 3 – 9, Cotner).

With respect to claim 19,

Cotner discloses a system for processing databases, said system comprising:

- a plurality of storage areas each storing a database (Figure 1, Cotner); and
- a plurality of computers each having a database management program running thereon which manages one of said plurality of storage areas, each said storage area being associated with only said computer managing said storage area (Figure 2 and column 1 lines 41 – 62, Cotner);

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- wherein each computer includes a substitution control section configured, if one of said plurality of database servers is found to have failed as a failed database server when a request for processing is made to said failed database server, to obtain an identifier of another one of said plurality of database servers as a substitute database server which is to take over said processing from said failed database server based on information on substitution relations between said plurality of database servers, and switching from said failed database server to said substitute database server for receiving said request for said processing (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner); and
- wherein said information on substitution relations between said plurality of database servers indicating which one of said plurality of database servers is used as a substitute database server if one of the other database servers fails is stored beforehand (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 20,

Cotner discloses the system as recited in claim 19, further comprising a communications control apparatus configured to receive said request to which a substitution instruction based on said information on substitution relations has been added upon a failure of said failed database (Figure 3 and 4, Cotner); and wherein said substitution control section is configured to recognize said substitution instruction and

perform said processing in place of said failed database server based on said recognized substitution instruction (the resync port number is pre assigned and this is similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 21,

Cotner discloses the system as recited in claim 20, wherein said substitution control section is configured to change an execution environment of said substitute database server to an execution environment of said failed database server before performing said processing in place of said failed database server (column 8 lines 36 – 51, Cotner).

With respect to claim 22,

Cotner discloses the system as recited in claim 20, wherein said substitution control section is configured to use a database buffer of the substitute computer for accessing a database storage area, a table, or an index associated with said failed database server (where the list could be an index in column 8 lines 36 – 42 and in Figure 5 element 215 is a table that has the resync numbers, Cotner).

With respect to claim 23,

Cotner discloses the system as recited in claim 20, further comprising a processing request receiving device configured, if one of said plurality of database servers is found to have failed as a failed database server when a request for

processing is made to said failed database server, to add a substitution instruction to said request for processing based on said information on substitution relations, before sending said request for processing to said computers (column 7 lines 29 – 47, Cotner).

With respect to claim 24,

Cotner discloses a computer readable medium storing a program for processing databases in a system which includes a storage area storing said database and a plurality of computers each having a database management program running thereon which manages said storage area, each said storage area being associated with only said computer managing said storage area, the program comprising:

- code for, when a failure has occurred in one of said plurality of computers as a failed computer, obtaining preset substitution information indicating that the storage area managed by the database management program running on said failed computer is to be managed by the database management program running on another one of said plurality of computers as a substitute computer (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner); and
- code for, based on said substitution information, changing association of said storage area with said failed computer to said substitute computer, said storage area to be managed by said database management program running on said substitute computer (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 25,

Cotner discloses the program as recited in claim 24, wherein said substitution information includes association information associating an identifier of said database management program running on said failed computer with an identifier of said database management program running on said substitute computer, said substitution information indicating that said storage area managed by said database management program running on said failed computer is to be managed by said database management program running on said substitute computer when a failure occurs (the resync port number is pre assigned and this is similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 26,

Cotner discloses the program as recited in claim 24, wherein said substitution information includes a plurality of pieces of association information each associating an identifier of said database management program running on said failed computer, an identifier of the database management program running on one of a plurality of substitute computers, and priority information indicating a priority with one another, said substitution information indicating that said storage area managed by said database management program running on said failed computer is to be managed by said database management program running on one of said substitute computers selected according to said priority information (column 5 lines 7 – 37, Cotner).

With respect to claim 27,

Cotner discloses the program as recited in claim 24, further comprising code for taking over processing from said failed computer by said substitute computer based on said substitution information (column 3 lines 3 – 9, Cotner).

With respect to claim 28,

Cotner discloses the program as recited in claim 27, further comprising: code for receiving said request to which a substitution instruction based on said information on substitution relations has been added upon a failure of said failed database (Figure 3 and 4, Cotner); and code for recognizing said substitution instruction and performing said processing in place of said failed database server based on said recognized substitution instruction (the resync port number is pre assigned and this is similar to the unique identifier of the substitute computer, column 5 lines 7 – 37, Cotner).

With respect to claim 29,

Cotner discloses the program as recited in claim 28, further comprising code for, before performing said processing in place of said failed database server, changing an execution environment of said substitute database server to an execution environment of said failed database server, said substitute database server taking over said processing (column 8 lines 36 – 51, Cotner).

With respect to claim 30,

Cotner discloses the program as recited in claim 28, wherein said code for performing said processing in place of said failed database server comprises code for using a database buffer of the substitute computer for accessing a database storage area, a table, or an index associated with said failed database server (where the list could be an index in column 8 lines 36 – 42 and in Figure 5 element 215 is a table that has the resync numbers, Cotner).

With respect to claim 31,

Cotner discloses a system for processing databases, said system comprising:

- a plurality of storage areas each storing a database (Figure 1, Cotner);
- a plurality of computers each having a database management program running thereon which manages one of said plurality of storage areas, each said storage area being associated with only said computer managing said storage area (Figure 2 and column 1 lines 41 – 62, Cotner); and
- a management system coupled with the plurality of computers (Figure 2, Cotner);
- wherein the management system is configured to determine whether a failure has occurred in one of said plurality of computers as a failed computer; and, if a failure has occurred, to obtain preset substitution information indicating that the storage area managed by the database management program running on

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said failed computer is to be managed by the database management program running on another one of said plurality of computers as a substitute computer (Figure 2, column 2 lines 60 – 67 and column 3 lines 1 – 9, Cotner); and

- wherein each computer is configured, when a failure has occurred in one of said plurality of computers as a failed computer, to obtain the preset substitution information from the management system; and, based on said substitution information, to change association of said storage area with said failed computer to said substitute computer, said storage area to be managed by said database management program running on said substitute computer (Figures 3 and 4, column 4 lines 60 – 67 and column 5 lines 1 – 6, Cotner).

With respect to claim 32,

Cotner discloses the system as recited in claim 31, wherein said management system is configured to send a request for processing including accessing a storage area; and wherein, if the computer associated with the storage area to be accessed is the failed computer, the management system is configured to add a substitution instruction to the request based on said preset substitution information (column 7 lines 29 – 47, Cotner).

With respect to claim 33,

Cotner discloses the system as recited in claim 32, wherein said substitute computer is configured, upon receiving said request from said management system with said substitution instruction, to change an execution environment of said substitute computer to an execution environment of said failed computer before performing said processing in place of said failed computer (column 8 lines 36 – 51, Cotner).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotner et al. ('Cotner' herein after) (US 6,247,055 B1) as applied to claims 1 – 3, 5 – 14

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and 16 – 33 above, and further in view of Graham Bromley ('Bromley' herein after) (US 2004/0039756 A1).

With respect to claim 4,

Cotner disclose the method as recited in claim 2, wherein said substitution information comprises a unidirection ring substitution configuration in which a group of the computers from a first computer to a last computer are associated with each other in a unidirection ring manner whereby a first computer is a substitute computer for a second computer which is a substitute computer for a third computer, and the last computer is a substitute computer for the first computer (column 5 lines 17 – 33, Cotner).

Cotner however does not explicitly disclose the unidirection ring substitution as claimed.

Bromley teaches the unidirection ring used to interconnect systems in Figure 1.

It would have been obvious to one of ordinary skill in the art of data processing at the time of the present invention to combine the teachings of cited references because both the references are in the same field of networking and system failure remedies. Furthermore, Bromley discloses with the ring to connect the systems there would be significant amount of storage capacity at its disposal (paragraph 0016, Bromley) and it would reduce the amount of network file replication (paragraph 0011, Bromley).

With respect to claim 15,

Cotner disclose the system as recited in claim 13, wherein said substitution information comprises a unidirection ring substitution configuration in which a group of the computers from a first computer to a last computer are associated with each other in a unidirection ring manner whereby a first computer is a substitute computer for a second computer which is a substitute computer for a third computer, and the last computer is a substitute computer for the first computer (column 5 lines 17 – 33, Cotner).

Cotner however does not explicitly disclose the unidirection ring substitution as claimed.

Bromley teaches the unidirection ring used to interconnect systems in Figure 1.

It would have been obvious to one of ordinary skill in the art of data processing at the time of the present invention to combine the teachings of cited references because both the references are in the same field of networking and system failure remedies. Furthermore, Bromley discloses with the ring to connect the systems there would be significant amount of storage capacity at its disposal (paragraph 0016, Bromley) and it would reduce the amount of network file replication (paragraph 0011, Bromley).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Navneet K. Ahluwalia whose telephone number is 571-272-5636. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alam T. Hosain can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Navneet K. Ahluwalia
Examiner
Art Unit 2166



MOHAMMAD ALI
PRIMARY EXAMINER

Dated: 08/01/2006